

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 01-094725

(43)Date of publication of application : 13.04.1989

(51)Int.Cl.

H03M 1/36

(21)Application number : 62-252741

(71)Applicant : NEC CORP

(22)Date of filing : 06.10.1987

(72)Inventor : HAYASHI TOMOAKI

## (54) AD CONVERTER

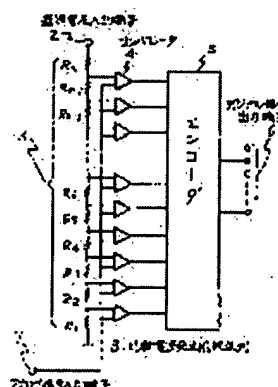
### (57)Abstract:

**PURPOSE:** To execute simultaneously a gamma correction and an A/D conversion, to save other correcting circuit, to simplify a circuit and to decrease a cost by making the resistance value of a resistance train for generating a comparing voltage of an A/D converter internal part into a special value.

**CONSTITUTION:** When a signal from an analog signal input terminal 7 and respective signals to divide the voltage from a reference voltage input terminal 2 with a resistance train 3 for generating the comparing voltage are compared with a comparator 4, the gamma correction is executed to a voltage divide ratio. At this time, the value of respective resistances R1~Rn of the resistance train 3 is the value shown by equation I under the prerequisite to execute the A/D converting of an N bit while the output level is proportional to the  $\gamma$ -th power of an input level. Thus, when a video signal from an image sensor is A/D-converted, an analog or digital circuit for external correction is made unnecessary, simple in circuit and can be made inexpensive in cost.

$$R_i = (1/2^{\gamma})^{\frac{1}{\gamma}} R_{i-1} \quad (1)$$

(ただし、 $R_0 = 0$ 、 $i = 1, 2, 3, \dots, 2^N$ 、 $N$ は出力ビット数、 $\gamma$ はガンマ係数、 $R_{i-1}$ は前記抵抗列の全直列抵抗値である。)



## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of

rejection]

[Kind of final disposal of application other than  
the examiner's decision of rejection or  
application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's  
decision of rejection]

[Date of requesting appeal against examiner's  
decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office